

# MOBILE IP INTRA-AGENT MOBILITY

## ABSTRACT OF THE DISCLOSURE

Methods and apparatus for enabling intra-agent mobility by a mobile node are disclosed, thereby permitting a mobile node to register with a Home Agent via a Foreign Agent where the Home Agent and the Foreign Agent are provided in the same router. A method of registering a mobile node visiting a Foreign Agent with a Home Agent includes receiving a registration request packet specifying a Home Address and a care-of address. It is then determined whether the Home Address specified in the registration request packet is equivalent to a Home Agent address associated with the router. In addition, it may be determined whether the care-of address specified in the registration request packet is equivalent to a Foreign Agent address advertised by the router. Alternatively, it may be determined whether the D bit specified in the registration request packet is set and the care-of address specified in the registration request packet is a collocated care-of address. The mobile node may then be registered with the Home Agent through the use of a physical interface on the router rather than creating or specifying a tunnel interface to reach the mobile node or the Home Agent.